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# Were sanctuary wells in Roman Gaul intentionally contaminated using animal carcasses (3rd–4th c. AD)?

Sébastien LEPETZ\* and Alice BOURGOIS\*\*

**Keywords.** *Ritual deposit, small mammal, raptor, hunting, sacrifice.*

**Abstract.** *This paper addresses the question of animal remains (isolated bones and complete skeletons) discovered in the fill of Roman sanctuary wells in northern France and their links with the dismantling of places of worship from the 3rd c. onwards. Several recently excavated sites (Vieil-Évreux, Mesnil-Saint-Nicaise and Méneestreau) and some comparative sites are presented. The main objective of the paper is to determine to what extent the animal remains are linked to the process of destruction and deconsecration. It demonstrates different animal deposits: those*

*trapped naturally, those thrown away voluntarily and those from raptor pellets. For the latter, it appears that some rare habitation site species (raptors, corvids) played a particular role in the abandonment of these wells. The question of their prophylactic or magical role is also addressed. Alongside these wild species, the paper also considers the role of domestic animals (e.g., ox, pig, dog and cat) found in the assemblages. It appears that the principal objective of these deposits was to render the structure unsuitable and to prevent any subsequent use by contaminating the wells and making the water inaccessible and impure.*

## Les puits des sanctuaires romains de Gaule étaient-ils volontairement contaminés à l'aide de carcasses d'animaux (III<sup>e</sup>-IV<sup>e</sup> s. apr. J.-C.) ?

**Mots-clés.** *Dépôt rituel, micromammifère, rapace, chasse, sacrifice.*

**Résumé.** *L'article aborde la question des restes d'animaux (os isolés et squelettes complets) découverts dans le comblement des puits des sanctuaires romains du nord de la France et leur lien avec le démantèlement des lieux de culte à partir du III<sup>e</sup> s. Plusieurs sites récemment fouillés (Vieil-Évreux, Mesnil-Saint-Nicaise et Méneestreau) et quelques ensembles de comparaisons sont présentés. L'objectif principal est de déterminer dans quelle mesure ces animaux – ou une partie d'entre eux – sont liés au processus de destruction et de déconsécration. L'étude fait apparaître différents types d'animaux : ceux piégés naturellement ou apportés par les pelotes de réjections de rapaces, et ceux qui ont été jetés là*

*volontairement. Parmi ces derniers, certaines espèces sont assez rares sur les sites d'habitat (les rapaces, les corvidés) et semblent pouvoir tenir un rôle particulier dans l'abandon de ces puits : la question de leur rôle prophylactique ou magique est abordée. Aux côtés de ces espèces sauvages, les assemblages sont aussi constitués de cadavres d'animaux domestiques (bœuf, porc, chien et chat) qui peuvent également exercer une fonction particulière. Il apparaît possible que l'objectif principal a été de rendre impropre la structure, empêchant ainsi toute utilisation ultérieure. Plus qu'un abandon, il ressort de ces comblements – incluant cadavres d'animaux et oiseaux de mauvais augure – une volonté active de contaminer le puits, de rendre l'eau inaccessible et impure.*

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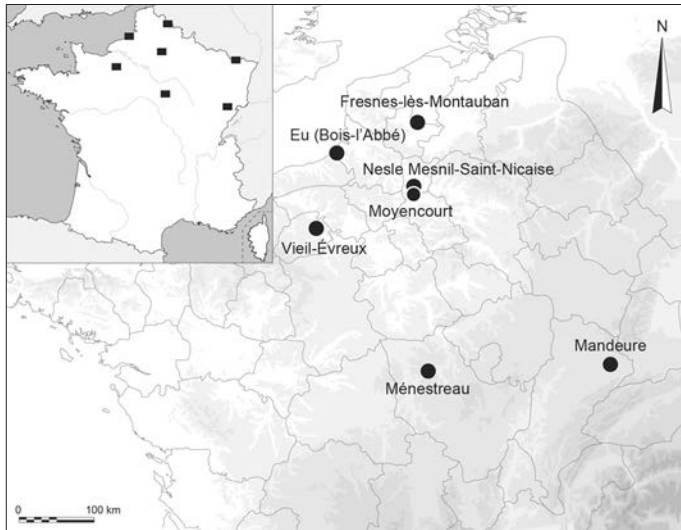


Fig. 1 – Geographical position of the sites mentioned (CAD: S. Lepetz).

In 2014, a special issue of the *Revue Gallia*, (“La fin des dieux. Les lieux de culte du polythéisme dans la pratique religieuse du III<sup>e</sup> au V<sup>e</sup> s. apr. J.-C. (Gaules et provinces occidentales),” Van Andringa, Raepsaet-Charlier dir. 2014) was published devoted to the mutation, dismantling and abandonment of late-antique sanctuaries in the western provinces of the Roman Empire, and the origin of transformations and the consequences on the religious landscape of the Gauls. This work highlighted the history of several shrines at the turn of the 3rd and 4th c. AD, and the modalities that led to their abandonment.<sup>1</sup>

The retrieval of monumental ornaments and metals often accompanied the cessation of public religious practices, although in some cases the remnants of individual and private acts of devotion can still be observed, even when these places have been completely abandoned or have been reoccupied in a profane manner. These moments in the history of places of worship are sometimes accompanied by well understood gestures, such as the planning and supervision of the dismantling process (Van Andringa 2014, p. 5), the recovery and reuse of construction materials, the probable ritual and public practice of closure deposits such as those involving bronze furniture mutilated in Vieil-Évreux (Guyard *et al.* 2012), or possible desacralization practices, such as the case of the two young cows buried in the courtyard of the sanctuary of Eu “Bois-l’Abbé” (Aubin *et al.* 2014).

But we should not generalize and assume that the history of the end of sanctuaries is similar everywhere. We should not systematize a “model” defined on the basis of particular cases (Aubin *et al.* 2014). Other specific aspects of sanctuaries are yet to be described and understood.

Thus, analysis of these sanctuaries reveals a double phenomenon: that some traces of these abandonments have been unearthed in wells and that these remains are often mixed with animal remains. These may be of complete animals, animal parts or isolated bones, sometimes present in large numbers. This is the case of the great sanctuary at Aulerici Ebuovices, Vieil-Évreux (Guyard *et al.* 2014), the sanctuary of the Sequani

at Mandeure (Huguet 2013; Blin, Cramatte 2014) and the sanctuary of the Viromandui at Mesnil-Saint-Nicaise (Cocu *et al.* 2013; Cocu, Rousseau 2014). These are comparable with other religious centres such as the Ambianic site of Ribemont-sur-Ancre (Fercoq-du-Leslay, Lepetz 2008), the Aeduan site of Ménéstrau (Argant *et al.* 2000; 2008), and the Viromanduan site at Moyencourt “Les Hauts du Bois de Piques” (Lepetz 2018), although this list is not exhaustive.

Animal remains are clearly noticeable during excavation as they contrast with the more usual discoveries from dumps or levels of occupation of broken bones resulting from food waste. The remains appear singular because they are linked to structures which played a prominent role in shrines, and because these structures penetrate deep underground they lead the archaeologist, probably unconsciously, to consider a particular dimension, that of being in the presence of a line of communication with underground powers (see for example Petit 1987; 1989). Consequently, two opposing points of view can be suggested: a functional and technical vision which regards the fill as being composed purely of waste, without any link to the primary function of the structure or the sacred status of the site; and a ritual vision where the remains are the result of religious or symbolic gestures directly related to the function of the well.

These remains, whether complete or incomplete animals, raise important questions such as their nature and meaning, their link in the process of the abandonment of places of worship, and whether or not they result from voluntary gestures or ritual acts.

New archaeozoological analysis of the Vieil-Évreux and Mesnil-Saint-Nicaise wells, as well as that of the comparison sets analysed earlier, make it possible to describe these assemblages, the species present, and to highlight their variety, according to the depth of the fills, the deposits and the dissimilarities and the similarities (fig. 1).

The primary ambition of this article, therefore, is to provide a methodological framework for reflection, by sorting the arguments in light of these well-studied and precisely exposed cases, and by refraining from proposing a univocal answer for all situations.

## THE WELL FROM THE VIEIL-ÉVREUX SANCTUARY

The agglomeration at Vieil-Évreux (Eure), in the territory of the Aulerici Ebuovices, was founded around the beginning of 1st c. AD and reached its peak at the beginning of the 3rd c. (Guyard *et al.* 2014; Bertaudière *et al.*, to be published). At that time the city covered an area of 230 hectares, with the centre, the “Great Severan Sanctuary,” occupying at least six hectares comprising a theatre, baths, a large public square and a network of aqueducts. Its decline can be observed from the second half of the 3rd c., when the large sanctuary seems to lose part of its monumental ornamentation before being definitively closed around 275–280 AD. It was then transformed into a *castellum*: a basic fortification with an earthwork and a ditch. This *castellum* was probably still active during the final demolition of the Severan building that took place between the end of the 3rd and the end of the 4th c.

1. We thank J. Cucchi for English editing, S. Esmonde Cleary and S. Deschler-Erb for insightful comments.

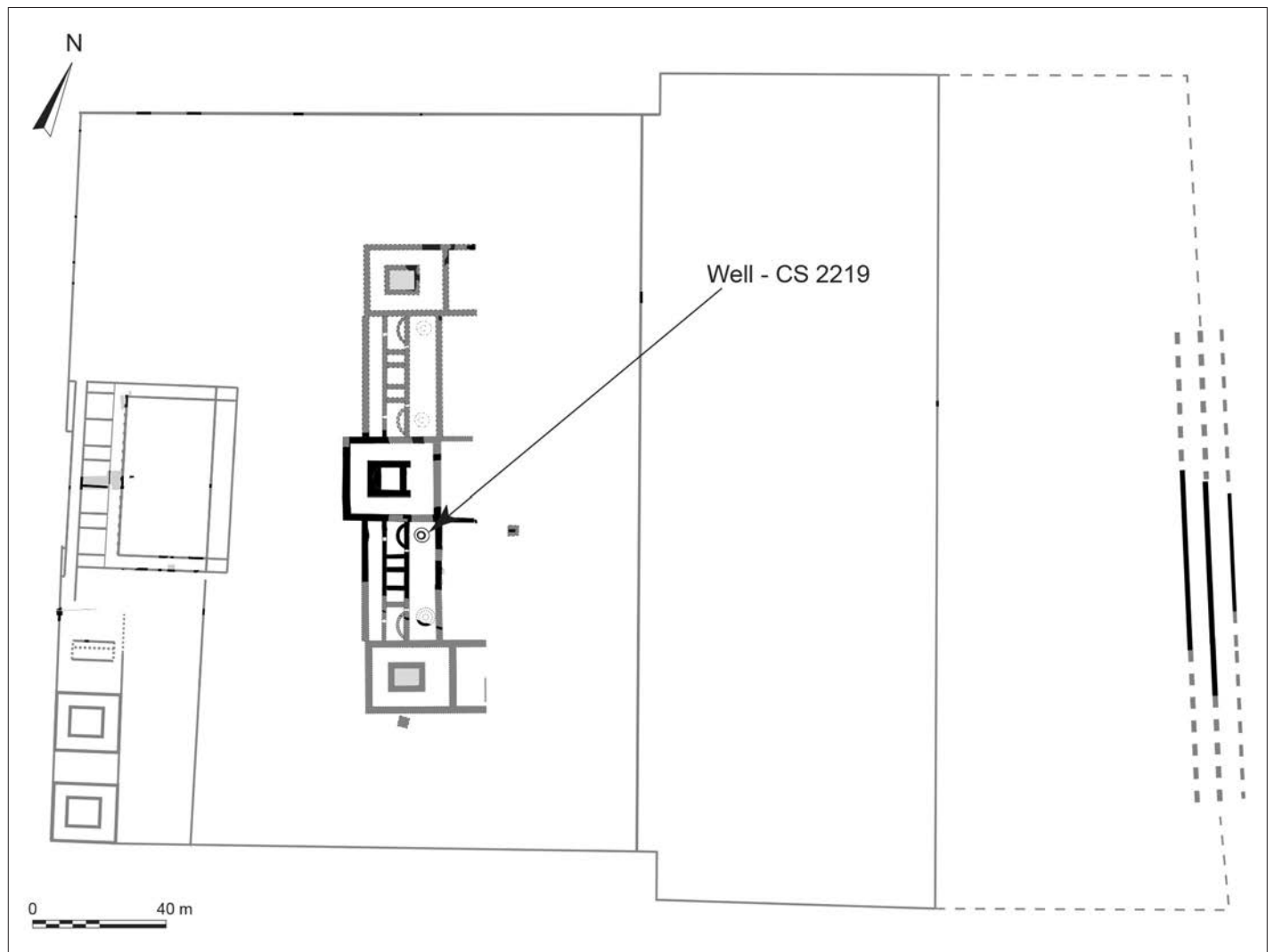


Fig. 2 – Great Severan Sanctuary, Vieil-Évreux (Eure) (CAD: excavations 2005-2009: L. Guyard; excavations 2010-2016: S. Bertaudière).

Two monumental wells are associated with the Severan monuments (fig. 2). The north-west well (CS 2219-Sondage 28) was explored in 2012 by the company Archéopuits, in collaboration with Sandrine Bertaudière (Mission archéologique départementale de l'Eure) who was in charge of the excavation programme. This well was installed under a semi-covered gallery between two of the three temples in the Great Sanctuary, but although it is deep (28 m) it does not reach the water table.

It appears that it was built to collect the rainwater that flowed into the gallery during the High Empire. Much later, during the desertion of the complex, it collected contemporary waste from the closure and dismantling of the sanctuary in the form of a large dump during the occupation of the *castellum*. The upper fill of the structure was made up of construction elements (e.g., cornices, drum of pilaster, mouldings, reliefs) linked to the end of the demolition site (Bertaudière 2016).

A large quantity of animal bones were discovered in this well: 25,266 remains including more than 15,000 remains identified to species. These were divided into two distinct filling phases: the first between 280 and 330 AD, and the second between 330 and 350 AD. However, the deeper levels appear to be contemporary with the functioning of the structure and its initial abandonment.

The nature of the remains is varied and includes both wild and domestic species, with some remains bearing traces of cutting corresponding to complete food remains and complete animals.

The first phase of well filling contained the most abundant remains, with nearly 24,000 bones and teeth (weighing more than 144 kg and spread over 36 different stratigraphic units), while the upper levels composed of 14 Us delivered just under 1,500 remains (tabl. I, tabl. II; fig. 3).

For this phase, food remains were dominated by pig (*Sus scrofa domesticus*), followed by cattle (*Bos taurus*), domestic cockerel (*Gallus gallus domesticus*) and caprines (*Ovis aries* and *Capra hircus*), an assembly close to that observed for the contemporary phases of the site. There was also a strong presence of pigeons and, unusually on this site, of wild mammal bones. The quantity of red deer (*Cervus elaphus*, 150 bones and teeth), roe deer (*Capreolus capreolus*, NR=30) and wild boar (*Sus scrofa scrofa*, NR=42) revealed a particular attraction for big game, similar to that observed on other sites of late antiquity (Lepetz, Morand 2017). Food remains were much less numerous in the second phase of filling.

In addition, many complete animal skeletons were collected from the bottom of the structure, characterized by the presence



Fig. 3 – Animals discovered in the fill of well S.28, Veil-Évreux. On the left side: number of isolated animal remains (pig, cattle, sheep-goat, chicken=NOR determined); on the right side: number of complete animal skeletons (CAD: A. Bourgois, S. Lepetz, E. Leconte; Survey: A. Berthelon, J.-M. Féménias, G. Gouzon, O. Mignot, L. Tocqueville).

Tabl. 1 – Remains count from well S.28, Vieil-Évreux, phase III.1 (280–330 AD).

Species		NOR	NOR %	Weight (g)	Weight %	MNI	Completes
ox	<i>Bos taurus</i>	2,683	18.7	80,631.5	62.7	12	2
pig	<i>Sus scrofa domesticus</i>	6,317	44	30,579.5	23.8	34	5
caprin indet.	<i>Caprinae</i> sp.	497	3.5	2,238.5	1.7	11	0
goat	<i>Capra hircus</i>	3	< 0.1	33.5	< 0.1	1	0
sheep	<i>Ovis aries</i>	63	0.4	729	0.6	7	1
horse	<i>Equus caballus</i>	1	< 0.1	97.5	0.1	1	0
donkey	<i>Equus asinus</i>	1	< 0.1	76	0.1	1	0
equids indet	<i>Equidae</i> sp.	2	< 0.1	12.5	< 0.1	—	0
dog	<i>Canis familiaris</i>	776	5.4	1,262	1	14	14
cat	<i>Felis catus</i> ?	123	0.9	150.5	0.1	1	1
chicken	<i>Gallus gallus</i>	1,243	8.7	674.3	0.5	45	6
goose	<i>Anser anser</i>	8	0.1	18.5	< 0.1	2	0
mallard	<i>Anas platyrhynchos</i>	21	0.2	23	< 0.1	2	0
pigeon	<i>Columba livia</i>	266	1.9	60.5	< 0.1	12	2
red deer	<i>Cervus elaphus</i>	150	1	9,600.5	7.5	4	0
roe deer	<i>Capreolus capreolus</i>	30	0.2	127	0.1	1	0
hare	<i>Lepus europaeus</i>	74	0.5	89	0.1	2	1 ?
boar	<i>Sus scrofa scrofa</i>	42	0.3	1,953	1.5	2	0
fox	<i>Vulpes vulpes</i>	1	< 0.1	4.5	< 0.1	1	0
weasel	<i>Mustela nivalis</i>	13	0.1	1.5	< 0.1	3	0
marten	<i>Martes martes</i>	110	0.8	57.5	< 0.1	1	1
ducks indet.	<i>Anas</i> sp.	36	0.2	19.5	< 0.1	—	—
pintail	<i>Anas acuta</i>	1	< 0.1	0.5	< 0.1	1	0
greater scaup	<i>Aythya marila</i>	2	< 0.1	2.5	< 0.1	1	0
corvid indet.	<i>Corvidae</i> sp.	1	< 0.1	0.5	< 0.1	—	—
rook	<i>Corvus frugilegus</i>	3	< 0.1	0.5	< 0.1	2	0
jackdaw	<i>Coloeus monedula</i>	326	2.3	74.7	0.1	22	7 ?
goshawk	<i>Accipiter gentilis</i>	48	0.3	47.5	< 0.1	1	1
buzzard	<i>Buteo buteo</i>	2	< 0.1	2	< 0.1	1	0
thrush indet.	<i>Turdidae</i> sp.	1	< 0.1	< 0.1	< 0.1	—	0
mistle thrush	<i>Turdus viscivorus</i>	2	< 0.1	< 0.1	< 0.1	1	0
blackbird	<i>Turdus merula</i>	22	0.2	1.5	< 0.1	3	1
swift	<i>Apus apus</i>	1	< 0.1	< 0.1	< 0.1	1	0
woodcock	<i>Scolopax rusticola</i>	12	0.1	2.5	< 0.1	1	0
bullfinch	<i>Pyrrhula pyrrhula</i>	3	< 0.1	5.5	< 0.1	1	0
robin	<i>Erithacus rubecula</i>	2	< 0.1	< 0.1	< 0.1	1	0
woodpecker	<i>Picus viridis</i>	12	0.1	1.5	< 0.1	2	0
greenfinch	<i>Chloris chloris</i>	1	< 0.1	< 0.1	< 0.1	1	0
batrachian indet.	<i>Amphibia</i> sp.	4	< 0.1	0.5	< 0.1	2	—
mole	<i>Talpa europaea</i>	1	< 0.1	< 0.1	< 0.1	1	—
shrew	<i>Sorex araneus</i>	2	< 0.1	< 0.1	< 0.1	1	—
garden dormouse	<i>Eliomys quercinus</i>	5	< 0.1	0.5	< 0.1	1	—
voles indet.	<i>Microtus</i> sp.	14	0.1	< 0.1	< 0.1	3	—
black rat	<i>Rattus rattus</i>	215	1.5	30.6	< 0.1	24	—
mice indet.	<i>Muridae</i> sp.	1,138	7.9	38.3	< 0.1	125	—
domestic mice	<i>Mus musculus</i>	16	0.1	0.1	< 0.1	9	—
wood mice	<i>Apodemus sylvaticus</i>	52	0.4	0.5	< 0.1	14	—
determined	—	14,346	60.3	128,648	89.1	362	
indeterminates	—	9,441	39.7	15,684	10.9	—	
<b>TOTAL</b>	—	<b>23,787</b>	<b>100</b>	<b>144,332</b>	<b>100</b>	—	

Tabl. II – Remains count from well S.28, Vieil-Évreux, phase III.2 (middle of the 4th c.).

Species		NOR	NOR %	Weight (g)	Weight %	MNI
ox	<i>Bos taurus</i>	403	42.8	7,231	70.4	3
pig	<i>Sus scrofa domesticus</i>	84	8.9	422	4.1	5
sheep/goat indet.*	<i>Caprinae</i> sp.	320	34	2,060.5	20.1	5
*sheep	<i>Ovis aries</i>	45	4.8	1,045	10.2	3
dog	<i>Canis familiaris</i>	2	0.2	1	< 0.1	1
chicken	<i>Gallus gallus</i>	70	7.4	88	0.9	3
goose	<i>Anser anser</i>	1	0.1	5	< 0.1	1
red deer	<i>Cervus elaphus</i>	12	1.3	451	4.4	1
fox	<i>Vulpes vulpes</i>	2	0.2	1	< 0.1	1
greater scaup	<i>Aythya ferina</i>	1	0.1	0.5	< 0.1	1
wood pigeon	<i>Columba palumbus</i>	6	0.6	4	< 0.1	1
magpie	<i>Pica pica</i>	1	0.1	0.5	< 0.1	1
jackdaw	<i>Coloeus monedula</i>	12	1.3	3	< 0.1	2
blackbird	<i>Turdus merula</i>	10	1.1	1	< 0.1	3
batrachian indet.	<i>Amphibia</i> sp.	10	1.1	< 0.1	< 0.1	2

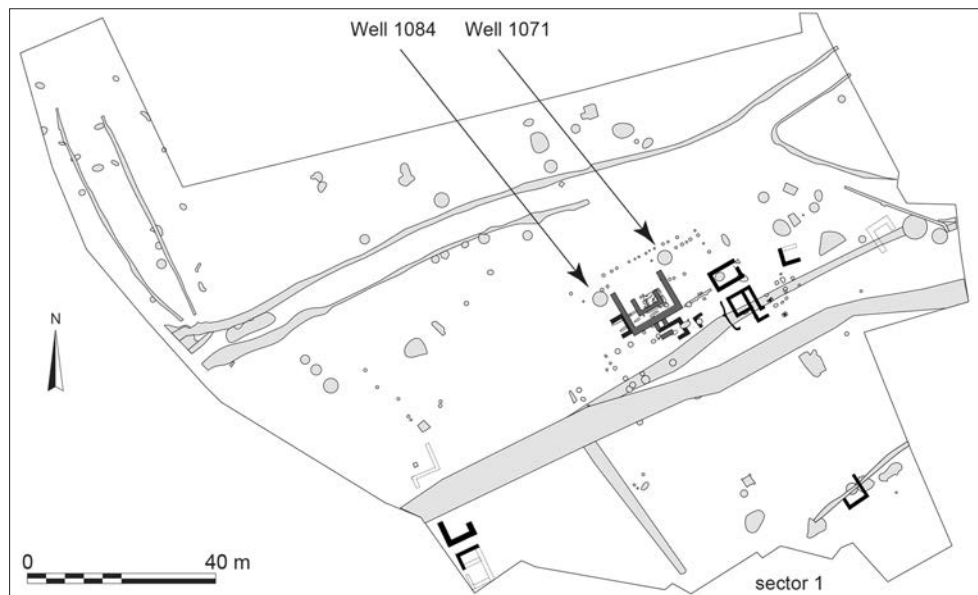


Fig. 4 – Nesle Mesnil-Saint-Nicaise (Somme) sanctuary (CAD: A. Rousseau; Topography: A. Bolo).

of many microvertebrates: the house mouse (*Mus musculus*), the black rat (*Rattus rattus*), the vole, etc., are represented by at least 176 individuals (for nearly 1,500 remains).

The bottom levels also delivered other complete animals such as a jackdaw (*Coloeus monedula*), two chickens (*Gallus gallus*), several chicks and seven pigs. All were young animals. Two of the four piglets were less than 2 months old, the third was between 2 and 4 months old, and the last between 4 and 6 months old. A little above these pigs we found suidae of the same age: 2–4 months, and two of 4–6 months. Above this, we found a complete cattle (*Bos Taurus*) skeleton. Several dog (*Canis familiaris*) and puppy skeletons had also been discarded, including at least 14 individuals: four juveniles, two newborns, six fetuses (maybe from the same litter) and two adults. Among the dog remains was a penile bone, a sign that one of the adults was a male; the other was perhaps a pregnant female, which would explain the origin of the fetal remains. In the upper part of the filling, contemporary with the occupation of the *castellum*, were

a neonatal piglet in Us 428, four other piglets aged from 0 to 4 months, a calf of a few months (but less than 6), a hare (*Lepus europaeus*), six jackdaws and several chicks. The abandonment levels delivered two adult sheep (*Ovis aries*, males) and calves of a few months old.

## THE TWO WELLS FROM THE NESLE MESNIL-SAINT-NICAISE SANCTUARY

The Nesle Mesnil-Saint-Nicaise site (Somme) in the *civitas* of the Viromandui, was excavated in 2011 and 2012 as part of the Seine–Nord Europe Canal project by a team from Inrap (directed by Aurélie Rousseau).

This site, whose main axis is located at the bottom of a valley, is distinguished by its archaeological levels which cover the protohistoric period to the extreme end of the 3rd c. (Cocu,

Rousseau 2014), preserved under successive thick colluvium and embankments. Ancient levels are characterized by the presence of buildings linked to cultural practices (fig. 4). The discovery of the remains of hearths and numerous burnt bones indicate the existence of a cremation platform and associated pits, which contained tens of thousands of unburnt sheep bones dating to the Augustan period (Lepetz, Yvinec unpublished). This first phase is identified by levels of use evidenced by scattered animal bones (spread across the surface) and levels of human circulation, which seems to have lasted until the middle of the 1st c. AD.

However, as there are also buildings or constructions whose occupation levels have disappeared, it is not possible to determine the nature of any activities that may have taken place here or confirm whether they were continuous, although evidence of a temple with a peripheral gallery erected at the end of the 2nd c. suggests they could have been. Unfortunately, this temple, which has undergone several refurbishments, does not have evidence for any occupation levels. Nevertheless, excavation of the two wells associated with it has provided objects linked to religious activity: miniature ceramics with the effigy of nymphs; probable wooden ex-voto representing lower limbs; statuary; and inscriptions: one to Sol and Luna on a copper alloy medallion, and the other dedicated to Apollo Vatumaros on a ceramic mortarium, indicating that he was one of the gods honoured at this temple (Cocu *et al.* 2013). Coins found in these wells, as well as in the levels of the temple's abandonment, show the end of activity at this place of worship as being at the extreme end of the 3rd c., frequentation at a lower level in the 4th c. being evidenced by finds of coinage. In addition, these wells have yielded pollen remains, carpological remains, branches and wood which have made it possible to describe the natural environment of the sanctuary (Boulen *et al.* to be published).

Well 1071 was excavated in several sections, many of which delivered animal remains (fig. 5). In total, over 800 bones and teeth were collected. The lower levels clearly provided the most material. Layers 1071.9 and 1071.10 are the lowest levels and are therefore the ones most probably connected with the activities carried out in the sanctuary. In fact, seven caprine remains (fragments of tibias, atlases, ribs and two teeth) can probably be linked to surface remains, notably those of structures #7 (cremation platform) and Us 4088 and Us 5099 located nearby. Their small number indicates that they are probably general waste, fallen by chance rather than by deliberate or ceremonial gestures. The other animal remains, however, are very different from those found in the rest of the occupation levels or pits, as they come from complete animals. Unfortunately, not all of the small bones from these individuals were recovered, as they were not identified during excavation. However, sifting a good quantity of sediment from the bottom of the well made it possible to collect very small skeletal elements. Despite these limitations, one can estimate that there were at least 13 moles (*Talpa europaea*, 70 bones), 20 small mammals (see voles, shrew: 99 bones, and black rat: 2 bones), numerous amphibians including common toads (*Bufo bufo*, 24 bones), and three incomplete adult red squirrels (*Sciurus vulgaris*, 10 bones). Also present were two redwing or song thrushes (*Turdus iliacus* or *Turdus philomelos*), represented by 15 bones; a small

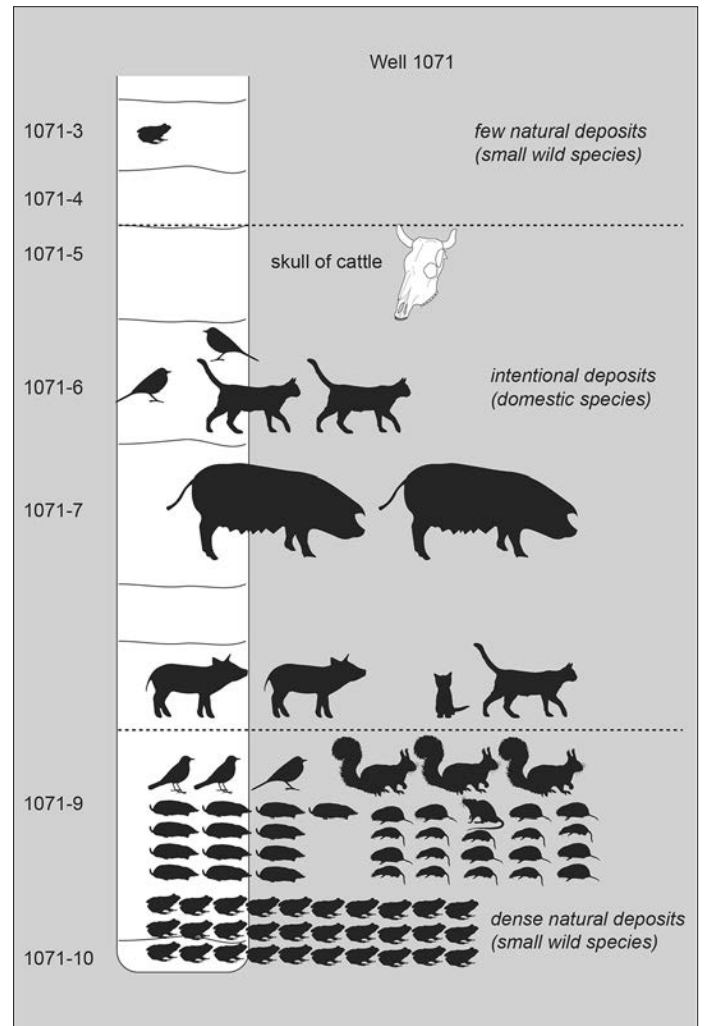


Fig. 5 – Animals discovered in well 1071, Mesnil-Saint-Nicaise (CAD: S. Lepetz).

passerine the size of a robin (2 bones) and a mallard duck (*Anas platyrhynchos*, 2 bones). However, given the numerical weakness of the bones, it should be considered that the latter species was not represented by a complete animal. The assemblage was completed by two young cats (*Felis catus*, one immature and one slightly younger) and the remains of two piglets, both less than 6 months old. All anatomical parts were represented and only the smallest carpal bones, the phalanges, the non-welded elements of the vertebrae were missing. No cut marks were found: the animals were thrown in whole.

The previous levels delivered the skeletal remains of domestic animals which probably resulted from human action. Layer 1071.7 delivered 306 bones from two (almost complete) female adult pigs over 4 years old, represented by all of their anatomical parts. And although some bones were missing, the animals were probably whole when they entered the well—there were no traces of cutting. The level immediately above (1071.6) delivered 29 bones of two kittens and some remains of tiny passerines.

In level 1071.5 two cattle remains, including the elements of a skull (without the mandibles), were discovered. Block removal of the head preserved it in unity, making it possible to perceive no traces of slaughter, in the form of a frontal



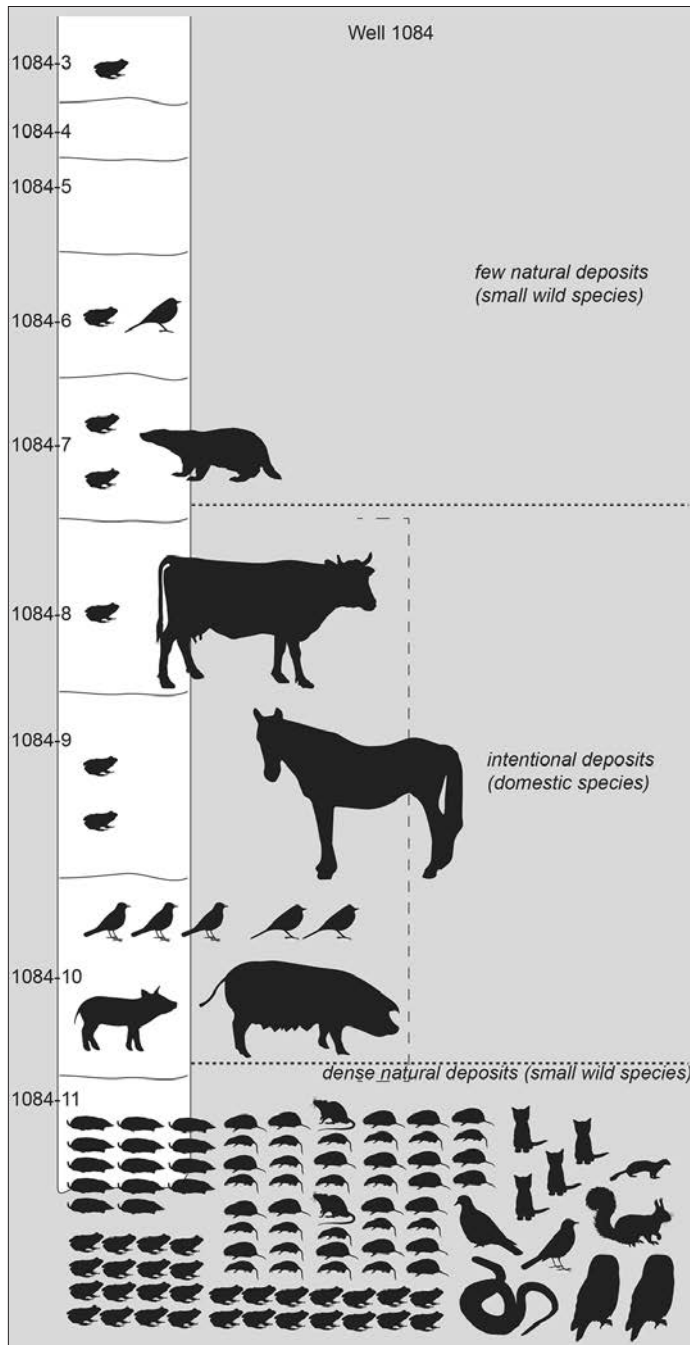


Fig. 6 – Animals discovered in well 1084, Mesnil-Saint-Nicaise (CAD: S. Lepetz).

depression, as one sometimes see in the context of butchery or sanctuary. Level 3 delivered approximately fifteen bones of caprine, chicken, and cattle, close to what one sees in a detritic context. Finally, we should note the presence of a European green woodpecker femur (*Picus viridis*, without stratigraphic attribution) which showed tiny traces of cutting. The level immediately above (1071.6) delivered 29 bones from two kittens and some tiny passerine remains.

The history of the filling of well 1084 (fig. 6) seems very similar to that of well 1071. More than 1,500 bones were collected, with the deepest levels being the richest. The sieved levels allowed the collection, in the last Us (1084.11), of at least 44 small mammals (including shrews and voles), at least

14 moles, many amphibians (mainly the common toad), and one snake (*Colubridae*) represented by 25 of its vertebrae. Some larger animals delivered enough bones to consider that they were complete: four kittens (79 bones), two tawny owls (*Strix aluco*, 53 bones) and one rock dove (*Columba livia*, 15 bones) were recognized. Other individuals were represented only by a few scattered elements: a red squirrel (6 bones), a common blackbird (*Turdus merula*, 3 bones), a song thrush (*turdus philomelos*, 2 bones), one or more robins (*Erithacus rubecula*, 6 bones), and an ermine (*Mustela erminea*, 2 bones). Other bones have been identified that look more like food remains or food preparation: five caprine bones (tibia, ulna, maxilla, mandible, vertebra), could reflect the activities of the sanctuary, a goose bone and 27 domestic cockerel (*Gallus gallus*) bones, of which 16 were from the lower hind legs (one distal end of the tibiotarsis, 14 tarsometatarsus and one posterior phalanx) corresponding to food preparation. But are these activities contemporary, and therefore linked to the functioning of the sanctuary, or to after its abandonment?

Just above this layer, in layer 1084.10, 92 pig bones were discovered. Although the bones are deficient, one can recognize the presence of a complete piglet and the remains of a 4-year-old male, represented by its mandibles and some long bones. A cut trace on a vertebra reveals a mixture of suidae remains from culinary preparation and those from a potentially complete animal (the youngest). The remains of mistle thrushes and song thrushes (*Turdus viscivorus* and *Turdus philomelos*, four individuals) were also found.

Layer 1084.8 essentially consists of a complete cattle skeleton. It is an adult male (all the bones have fused epiphyses) whose size can be estimated at having been between 1.44 m and 1.54 m, which is the usual size for the period. A small trace of cutting on the shaft of the tibia and a series of fine traces on the left nasal bone reveals it was skinned.

The level above (1084.7) delivered some fragments of caprine, pig, and amphibian remains. A complete badger (*Meles meles*) represented by 59 bones was also discovered. It is a very old individual (the teeth are very worn), which was either found dead or was hunted and thrown into the cavity.

It is also important to report the presence in this well of a complete horse (*Equus caballus*): a young mare of about 5 to 5.5 years old. The bones were collected from various levels: Us 1084.8, Us 1084.9, Us 1084.10 and Us 1084.11. It is possible that the animal was complete, as all the anatomical parts and the main bones are represented. However, most of the ribs are missing (only 2 proximal fragments were observed, but about 20 medial fragments), several phalanges (2 second phalanges and 3 third phalanges), several vertebrae (there are only 5 thoracic, 1 lumbar), but others may not have been collected. Only one cut trace was found: a fine incision on the posterior side of the left radius shaft. If this trace is related to anthropic action it does not reflect disarticulation, but more the removal of meat or associated products such as tendons or fascia. Despite the fact that there were no marks on the bones, it cannot be ruled out that the animal was deposited in several pieces.

Finally, the top levels (Us 1084.6, Us 1084.4, Us 1084.3 and Us 1084.2) only delivered about 20 bird bones and some amphibians.

## OTHER SANCTUARIES, OTHER WELLS

The sanctuary at Moyencourt “Les Hauts du Bois de Piques” (Somme) in Viromanduan territory, was excavated in 2010 and 2011 as part of the archaeological operation Seine–Nord Europe Canal (excavation 18), under the scientific responsibility of Jean-David Desforges and Gilles Prilaux (Inrap). It is a trapezoidal enclosure, open to the south-east by a 1.30 m wide interruption of the ditch and encompassing an area of about 5,000 m<sup>2</sup>, practically devoid of remains, around which Roman paths and an access or traffic corridor developed. The ditch fill provided ceramic remains which date the creation of the site to the second half of the 1st c., and its use until the beginning of the 4th c. The structures located inside the enclosure were limited to one or two buildings, the massive base of a pillar or altar, several pits, and a 6 m deep well (2016). The unusual shape of this enclosure, and the discovery of numerous coins, allowed G. Prilaux (2012) to envisage the prior existence of a small atypical sanctuary. One of the major characteristics of the animal remains discovered here was the homogeneity of the assemblage, defined by a dominance of cattle bones, particularly the head elements and the scapula, which evidenced initial butchery marks. Well 2016 delivered a total of just 71 animal remains, to which can be added the remains of anurans (common toad) trapped whilst the structure was still in use. Eight cattle bones, with traces of boning, were discovered in the fill. But the most interesting find was the presence of four intact piglet skulls, just a few weeks old (the fourth deciduous premolar is barely worn and the permanent molar 1 is not erupted), three mandibles and some skeletal elements. Due to not all the bones being represented, it is difficult to know whether these animals were initially complete (with only some skeletal segments being collected during excavation) or incomplete and disconnected elements; however, the absence of cut marks seems to indicate that they were not butchered. This leads us to question if the cessation of the well was caused by or necessitated the disposal of the piglet corpses?

The sanctuary of *Epomanduodurum*/Mandeure (Doubs) was abandoned in the second half of the 3rd c. (Blin, Cramatte 2014; Barral *et al.* 2015) and its monumental well partly filled with architectural elements from the demolition of the buildings. The speed of filling, and the size and characteristics of the deposits prompted the excavators to consider that the well was ritually closed, particularly due to the discovery of several complete animals and cattle skulls (Blin, Cramatte 2014, p. 58). In fact, it appears that the succession of animal remains is clear cut. The data published by Laetitia Huguet (2013) revealed that the deepest level contained the remains of incomplete badgers, cats, foxes (*Vulpes vulpes*), three complete hare skeletons and numerous dog bones of uncertain origin. Above this layer were the remains of butchered cows (skulls with horns and lower legs) and sheep. This type of slaughter deposit is quite common in sanctuaries and refers to cutting practices linked to the sharing of sacrificial victims and the sale of sacrificed meat on urban markets (Lepetz 2008). In Mandeure, as in Vieil-Évreux, Meaux (Lepetz, Magnan 2008), Jouars-Pontchartain (Blin, Lepetz 2008) and Moyencourt, a large part of the animal remains are connected with the occupation of the sanctuaries and are the result of religious and butchery activities.

Finally, the most recent levels of the well provided the scattered remains of pigs and cattle corresponding to food waste.

## WELL STORIES

Wells are significant and omnipresent structures on archaeological sites, especially in sanctuaries, as important water sources. Natural water sources, such as wells, springs and ponds (sometimes constructed, monumentalized) have been viewed as sacred and linked to local cults, or dedicated to healing gods (see for example Ben Abed, Scheid 2003; Cazanove, Scheid 2003; Roy 2013). But although water was important in cults for purification and sacrificial cooking, it was also necessary for general cleaning activities and for use in buildings.

Their presence was important, and therefore usual. Without prejudging the sanctity of the wells and of the water at Mesnil-Saint-Nicaise, Vieil-Évreux, Mandeure, Ménestreau, etc., the essential function of the wells was to allow access to the water table (Mesnil and Ménestreau) or to collect rainwater (Vieil-Évreux, and possibly Ménestreau). The meaning of remains in the fill, therefore, can be considered as the consequence of secondary use. In any case, the primary function of these structures seems clear, so it is not necessary to consider other activities (such as ritual wells or exposure pits for the decomposition of corpses), as one may be tempted to do for wells that do not seem to be strictly hydraulic structures.

In contrast, at Fresnes-lès-Montauban (Pas-de-Calais) in Atrebatian territory, discovered and studied in 1989 by archaeologists of the Association pour les fouilles archéologiques nationales (Afan), Yves Desfossés and Bertrand Masson, the ten shafts do not reach the water table, which suggests that they were constructed purely for offerings. These Roman period structures are situated on a protohistoric necropolis and have been dated to the 3rd c. AD (Masson, Desfossés 1997). The fill from the shafts probably also dates to the 3rd c. and was rather heterogeneous: unbroken ceramics (Lepetz 1996, p. 28; Lepetz, Méniel 2008), leftover meals, complete animal skeletons, the isolated connected limbs of domestic species and some wild animal carcasses. Three wells demand particular attention:

- shaft 24, containing the skeletons of a kitten and a 17-year-old horse,

- shaft 31, containing the skeletons of a one year-old pig (11–12 months old), two puppies, two dogs, and some of the connected anatomical organ systems from horse and cattle skeletons: a cattle head (unfortunately very fragmented), the 7 cervical vertebrae, the first 8 dorsal vertebrae and the corresponding ribs and a whole left anterior leg (scapula included); no traces of cutting were observed. And a left anterior horse limb comprising all the bones except the scapula. There are cut marks on the proximal epiphysis of the humerus, but no trace was found on the other bones. The limb was detached from the rest of the body and thrown whole into the well,

- shaft 32, containing the skeletons of a calf (15–24 months old), an ox, a sheep (3–4 months old) and a fox. It is assumed that, unlike the other animals, the fox probably fell into the well accidentally. The avifauna is dominated by the rook (*Corvus frugilegus*), with 45 remains (out of 46) coming from this well alone. The minimum number of individuals (MNI) was

estimated at 4: two young and two adults. There are no complete skeletons but there was a particular selection of specific bones: 35 bones belonging to the wing (or to the scapular belt), 10 bones coming from the hind limbs or the pelvis, and no head or vertebra remains. Again we are confronted with the meaning behind these deposits: mundane sanitary burials or religious acts.

Similar examples can be seen in several towns in Roman Britain (Woodward, Woodward 2004).<sup>2</sup>

A set of shafts found in the centre of the city of Dorchester (Durnovaria) containing the complete/incomplete skeletons or skulls of dogs, puppies, birds (crows—*Corvus Corone*), ravens and jackdaws have been interpreted as dedicatory rather than prosaic functional structures, possibly associated with the foundation of the town. It is interesting to observe that the fills of those pits are very similar to the wells of Vieil-Évreux or Mesnil and are contemporary with the desacralization of the sanctuary.

In general, the contents of the wells and the interpretation of their fill varies according to their nature and characteristics, such as their depth, access to water, the presence of particular objects, complete skeletons and unusual species. Their excavation is strongly constrained by aspects of security, difficulty of access and preservation of organic matter, but they represent an unequalled source of information (for a methodological approach to well excavation see Tardy *et al.* 2014; and on the late—and post—Roman practice in Britain of including recycled Roman building material in ritual activities, especially in well closure deposits, see Fleming 2016) on the life cycle of the structure and the associated remains. Generally three types of phases can be distinguished: excavation and construction, period of use, and abandonment (for more detail on these phases see Van Haasteren, Groot 2013). The archaeological levels corresponding to these phases can alternate between levels of functioning, sedimentation, cleaning, abandonment and filling. However, looking for traces of deliberate gestures linked to the (possible) ritual practice of “closing” the well calls for attention to be paid to a very fleeting phase during the excavation—at the interface between the last levels of operation and the first levels of filling. It also calls for any excavated remains to be accurately removed and described.

## A LARGE PRESENCE OF MICROVERTEBRATES

The sieving and careful excavation of the wells presented in this study allowed for the collection of 1,447 microvertebrate bones (rodents, insectivores and amphibians) from Vieil-Évreux, several thousand from Mesnil, and tens of thousands from Ménestreau (Argant *et al.* 2000; 2008), mainly from the bottom of the structures. The accumulation of small animals has two main origins: death caused by accidental trapping or predation by humans, carnivores or raptors.

2. There were no human remains among the bones collected from the wells presented in this paper. From a cross-Channel perspective this absence is quite striking, since these remains are frequently observed in British wells.

The proportions between the taxa of small mammals differs according to the wells, but they all contained anthropophilic species present in houses and gardens (house mouse, black rat); cultivated field species (common vole, *Microtus arvalis*); or meadow or forest species such as shrews (*Sorex* sp. or *Crocidura* sp.), field mice (*Apodemus sylvaticus*, *Microtus agrestis*), garden dormouse (*Eliomys quercinus*) and hedgehog (*Erinaceus europaeus*, Ménestreau). Some remains from the Ménestreau site were anthropophobic species, such as the bank vole (*Clethrionomys glareolus*) or the water shrew (*Neomys fodiens*) which have limited contact with humans and were therefore probably not accidental deposits.

The variety of the small mammal faunal spectrum (in Ménestreau there are at least 24 species), including animals from different biotopes, reveals a probable taphocoenosis (buried assemblage) of the western barn owl (*Tyto alba*), as it seems to have been the main accumulating agent of the small mammal assemblage; however, the long-eared owl (*Asio otus*) or the tawny owl may also have contributed to the assemblage. These birds probably expelled their pellets (containing undigested hair and bones) near the wells, perhaps on the roof protecting it or on the temple roofs, which rainwater drainage transported to the bottom of the water reservoirs. It is also plausible that other small carnivorous predators such as the least weasel (*Mustela nivalis*), the European pine marten (*Martes martes*), cats and dogs were involved in creating these assemblages, as several coproliths (evidencing alterations probably related to the effect of digestive juices) were discovered in the deep layers of the Vieil-Évreux well. The two tawny owl skeletons found at the bottom of the Mesnil-Saint-Nicaise well and the little owl skeleton (*Athene noctua*) at Ménestreau may belong to the group of individuals involved.

Another common point is the presence of a large number of amphibians (toads and frogs), and the rarer one of reptiles, such as snakes, being found in Mesnil-Saint-Nicaise or Ménestreau. These animals may have been the birds' prey, but the large number of amphibians suggests that they were probably attracted to the water during breeding or that they were simply trapped.

## OMINOUS BIRDS: INHABITANTS OF THE RUINS, BIRD'S PREY OR HUMAN FOOD?

Another category of animals found in these wells is wild birds. In the deepest layers of the well at Mesnil-Saint-Nicaise there are complete thrush skeletons (*Turdus* sp.) and small birds the size of a robin. At Vieil-Évreux, the taxonomic list is extensive. However, in the majority of cases the individual species (bullfinch, *Pyrrhula pyrrhula*; thrush (*Turdidae*); common swift, *Apus apus*, blackbird, green woodpecker, robin and greenfinch (*Chloris chloris*) are represented by just a few bones, but it is difficult to know if these gaps are due purely to collection bias. At Ménestreau small birds were also discovered: the finch (*Fringilla coelebs*), the Eurasian nuthatch (*Sitta europaea*), the barn swallow (*Hirundo rustica*), the blackbird and the thrush (*Turdus* sp.), but again it is difficult to know if the birds were complete. It could be that these small birds were

the victims of birds of prey. However, the presence of a green woodpecker femur presenting a trace of cutting (in Mesnil) suggests that some of these small birds were being hunted and eaten by humans, as is undoubtedly the case with the woodcock (*Scolopax rusticola*) and ducks (in Vieil-Évreux). Indeed, the hunting of small birds was a widespread practice in the Roman period, mainly conducted by birders using glue traps, bird calls and sometimes using birds of prey (Vendries 2009).

Other birds have also been found in large numbers: at least a dozen complete rock doves have been discovered at Vieil-Évreux and others at Ménestreau, and complete jackdaws. In fact, jackdaws were the second most numerous classified bird remains in the wells of Ménestreau and Vieil-Évreux, chickens being the first. Two concentrations of jackdaw bones are observable from the structure of Vieil-Évreux: a series of tarsometatarsus in level 440, and six complete skeletons in level 404–405. The jackdaw is a small corvid with a fairly compact appearance, black plumage and grey cheeks and neck. It is a cousin of the other corvid species present in the region, three of which are black: the northern raven (*Corvus Corax*), the rook (*Corvus frugilegus*) and the carrion crow (*Corvus corone*), and others with various colours: the Eurasian magpie (*Pica pica*) and the Eurasian jay (*Garrulus glandarius*).

The jackdaw has a great capacity for adaptation and is omnivorous, feeding on seeds, fruit, vegetables, insects, worms, snails and frogs; it will also willingly loot the nests of other birds. And although it generally prefers woodland (Yalden, Albarella 2009, p. 95), it has become anthropophilous and a synurbanist, foraging in both farms and towns (Boev 1993, p. 152). Indeed, some populations of jackdaws are now exclusively urban and have no contact with colonies of woodland birds. It is also common to find them nesting in human settlements (Oliosio 2012, p. 88-89), and is highly probable that a similar phenomenon occurred in antiquity.

At Ménestreau, jackdaw bones are more numerous than those of chickens: 71 jackdaw remains compared with 62 chicken remains (Argant *et al.* 2008, p. 85). This parallel is particularly interesting because the filling of the well occurred at the same time as Vieil-Évreux, during its abandonment phase in the 4th c. At Ménestreau, the jackdaw remains belong exclusively to the appendicular skeleton of the birds (i.e., wings and legs). Elements from the rachis, the skull and the phalanges (anterior and posterior) are absent. The distribution of these elements is relatively well balanced between the upper and the forelimbs. On the other hand, at Vieil-Évreux, the different parts of the skeleton are better preserved and more diverse, with even fragile elements such as skulls and ribs being present, although in smaller quantities. Moreover, there is an overrepresentation of jackdaw feet in the fill: the tibiotarsus and especially the tarsometatarsus are more numerous than other bones (fig. 7). Although this difference is not marked, it suggests that these anatomical parts were selected for a purpose that remains to be defined.

Thierry Argant suggests that the Ménestreau jackdaws merely correspond to trapped birds (Argant *et al.* 2000). Indeed, the balanced anatomical distribution of jackdaw bones at this sanctuary makes the hypothesis of natural accumulation possible. However, this hypothesis is contrary to evidence from Vieil-Évreux, as it cannot explain the supernumerary tibiotarsus and tarsometatarsus. In addition, 12% of the jackdaw bones

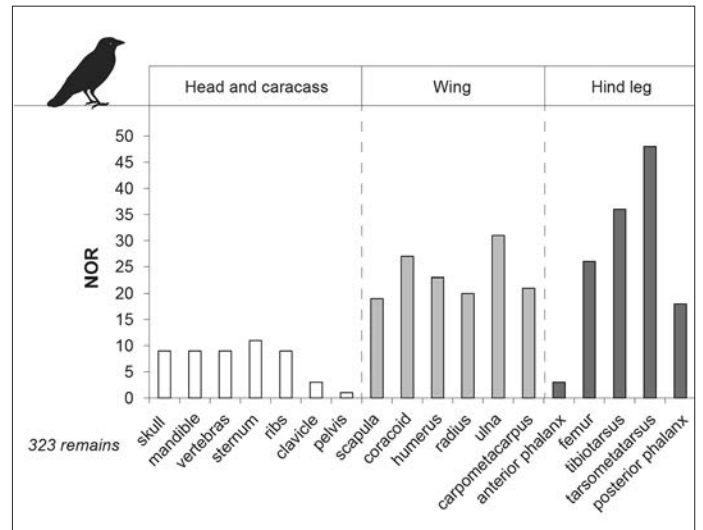


Fig. 7 – Anatomical distribution of jackdaw remains from well S.28, Vieil-Évreux (CAD: A. Bourgois, S. Lepetz).

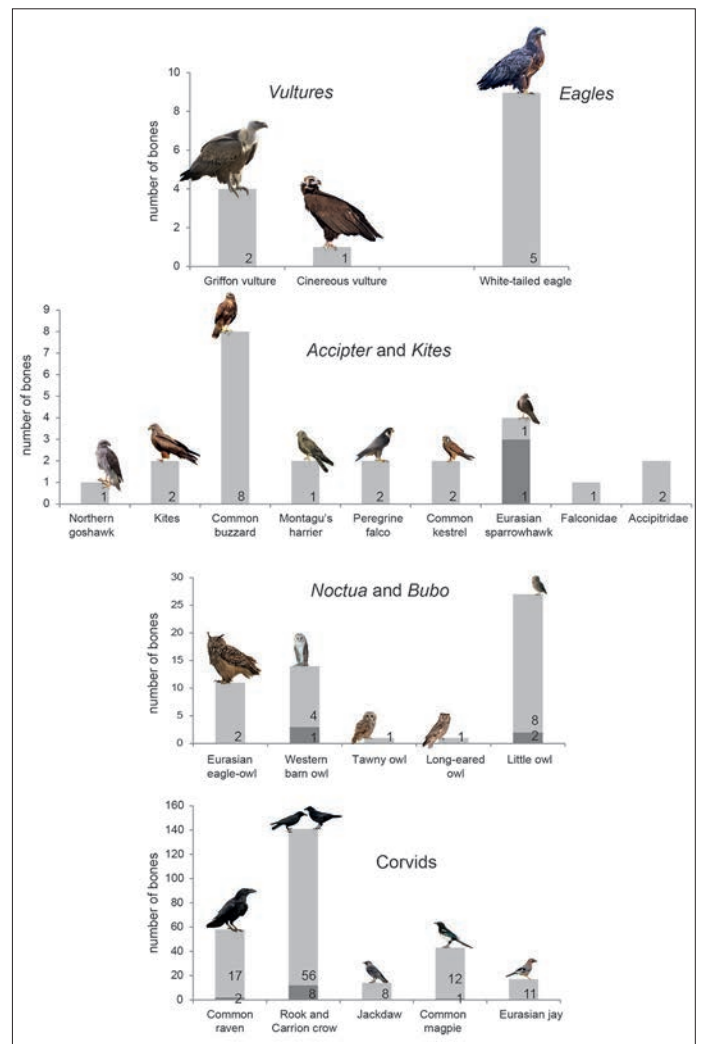


Fig. 8 – Species distribution of raptors and corvids found on sites in northern France (number of bones). The numbers at the base of the columns indicate the number of sites involved. The birds are approximately to scale. Number of site: Iron Age: farms and rural settlements (12); hamlets (2); undefined (3). Roman period: small towns (10); towns (32); farms, villas (41); hamlets (1); isolated settlements (5); undefined and various (7) (CAD: S. Lepetz).

present in the Vieil-Évreux wells belonged to young birds; therefore, deliberate human action must be at the origin of these two particularities, such as the removal of young jackdaws from their nest. But what happened to these corvids after their removal? And why are their leg bones so numerous?

Patrice Méniel (1987, p. 127) insists that corvids are also present on other sites (both habitat and cult places). However, although these corvid remains were discovered in sanctuaries, they were not deposited within a defined structure; therefore, they cannot be fully associated with possible religious practices.

Corvids did not have a good reputation in the Roman world because they were considered as necrophagous birds, like vultures (Normand 2015, p. 565-566; and on the cultural and religious significance of birds in the antique world see also the recent book by Mynott 2018). Nevertheless, corvids were probably present in Roman settlements, as we know that magpies, crows and jackdaws adapt readily to urban habitats and can live in close proximity to humans.

Despite this ability to adapt, the remains of jackdaws are not abundant in archaeozoological assemblages (fig. 8). For northern France, of the 914 sets of bones (rural and urban sites) from the Iron Age and Roman period studied (representing a total of more than 830,000 identified remains), the jackdaw was only found on eight sites (14 bones in total). This rarity makes the proportions found in the Ménestreau and Vieil-Évreux wells all the more remarkable.

The most numerous remains from any type of French settlement context is undoubtedly the *Corvus* (carrion crow and rook) which appears on eight Iron Age sites and 58 Roman sites (a total of 141 bones). The northern raven was found at two Iron Age sites and 17 Roman sites (a total of 58 bones).

In insular Britain archaeological discoveries have provided an interesting and unique insight into the status of corvids in ancient times, and there are many inventoried and analysed cases of ravens, crows and rooks deposited in pits (Serjeantson, Morris 2011). Thirteen Iron Age sites have delivered corvids in wells, shafts or pits. The Danebury site is one of the emblematic cases, with 31 individuals (several complete) being found in 17 pits. For the Roman period, 35 examples of complete corvid deposits (mainly raven) have been identified (also see the site of Greyhound Yard, Dorchester: Woodward, Woodward 2004). However, the largest number of deposits has been found in the city of Dorchester (14 skeletons from seven structures). By demonstrating the history of the individual skeletons and other archaeological evidences, Dale Serjeantson and James Morris have showed that most, if not all, the deposits were deliberate burials, often at the base of pits. They have also shown that the wings and feathers of ravens and crows were removed, probably for decoration or as military or ritual regalia.

The practice of burying corvids is apparently common in Britain, and although other cases have been recorded in other provinces of the Roman Empire, it is clear that they are far fewer in number. In France only one case from the north is known—a raven placed under a ceramic plate in Vendeuil-Caply (Oise) (150–175 AD, unpublished data)—despite the hundreds of sites excavated and the hundreds of archaeozoological studies carried out. In the Netherlands, Maaïke Groot mentions the discovery of corvids, notably in the deposits of Castricum-Oosterbuurt, Passewaaijse Hogeweg (a crow skeleton) and Kesteren-De

Woerd. The jackdaw is also present in the temple of Empel (Netherlands) but without any particular deposition (Groot 2008, p. 67-68).

It seems, therefore, that this phenomenon is particular to Britain, with continuity observed between the Iron Age and the Roman period reinforcing the idea of a regional practice. The question of the interpretation of gestures, on the other hand, can only be considered through hypotheses: rituals intended to ensure fertility, offerings to Demeter (Cunliffe 1992), offerings to the gods of the underground world, and/or other gods. But the meaning is perhaps less to be found in Roman beliefs than in regional customs and beliefs.

Cunliffe's hypothesis is perfectly plausible in some cases but is problematic for Vieil-Évreux, as the sanctuary was closed between 270 and 280 AD, and the corvid deposits occurred after the desacralization of the sanctuary. Nevertheless, simple population regulation cannot explain the particular anatomical distribution of so many jackdaw lower legs. If magical or rituals practices were still being undertaken at the end of the 3rd c., then the well that contained these jackdaw remains still occupied a cult role. In any case, it seems clear that these birds played a significant role in the ritual activities of the British population.

## THE RAPTORS

Birds of prey are a category of bird whose presence in the form of complete individuals is remarkable. Two tawny owls were found at the bottom of the Mesnil-Saint-Nicaise well, a little owl and a common kestrel (*Falco tinnunculus*) in the Ménestreau well and a goshawk (*Accipiter gentilis*) at Vieil-Évreux. The tawny owl is a widespread night owl. It is a little less than 40 cm long with a wingspan of about 1 metre. It hunts small mammals, mice, shrews, hedgehogs, worms, amphibians and small birds. It lives in woods, forests and wooded gardens. The little owl is a very small bird of prey about 25 cm long and less than 60 cm wide. It is active during the day and the night, but it hunts more at night. Its diet consists of insects, spiders, earthworms, small birds, small mammals and amphibians. It lives in a wide variety of environments, agricultural areas, open land, ruins, orchards and villages. It is not a rare species, although modern agricultural practices are responsible for the decline of the species. The common kestrel is a small bird of prey of about 40 cm. It lives in cultivated areas and feeds on mice, voles and insects. The goshawk is a very different bird. It is the commonest representative of the genus *Accipiter*. It is about 70 cm with a span of 1 to 1.30 m. It lives in wooded areas, cultivated areas and sometimes next to human dwellings. It is a formidable day hunter whose diet consists primarily of birds of all kinds (jays, pigeons, thrushes, blackbirds, crows, jackdaw, hawks, owls, etc.) but it is also known to take leverets and rabbits.

These birds of prey all hunt and feed on other animals but they all have very different behavioural patterns: some being visible during the day, others more at night; some hunt in flight but others land to encircle their prey. The same is true for their songs: the little owl produces a series of cries ranging from meowing to nasal, piercing and sharp, whereas the tawny owl produces a characteristic, rather melodious, hooting and a shorter alarm call.

It appears that the “raptor” category did not form a homogeneous group of birds among the Romans that would distinguish them from other birds (Normand 2015, p. 127). Our category of raptor is too broad to be relevant to the Romans, encompassing birds with extremely varied behaviour and image (Normand 2015, p. 207). Moreover, at the species level, the most common Latin zoonyms for these animals are generic terms that have both cultural and zoological consistency. Ancient authors, and no doubt the occupants of the territories, did not distinguish species as ornithologists do today but perceived them as elements of large groups.

Globally, the categorization of raptors consists of 5 groups: eagles, vultures, kites, accipiters and nocturnal raptors. Each of these groups consists of types, taxa, and birds that are not distinguished from each other by the Romans. Thus the different species of eagle (for example the golden eagle, *Aquila chrysaetos* or the white-tailed eagle, *Haliaeetus albicilla*) will not be differentiated any more than the different species of vulture (cinereous vulture, *Egyptus monachus*; griffon vulture, *Gyps fulvus*). For the Romans, the accipiter group included all the small diurnal birds of prey (falcons, sparrowhawks, goshawks), the black kite (*Milvus migrans*) and the red kite (*Milvus milvus*). The group of nocturnal raptors is divided in two but the species are not clearly distributed (Normand 2015, p. 511). If this classification corresponds to that of the Roman authors, it is difficult to assign each of the existing birds to these categories, especially for eagles since their dimensions are varied: a lesser spotted Eagle (*Clanga pomarina*) is thus hardly larger than a common buzzard (*Buteo buteo*) and has a relatively similar shape. Whatever the case, these groups were essentially defined according to cultural images.

The eagle, Jupiter’s bird, was the most prestigious bird of prey. It was admired, and its qualities of speed and strength were praised; it was fundamentally linked to the *Urbs*.

On the contrary, the vulture was despised, considered degenerate, disgusting (because it was necrophagous), gluttonous and greedy. But curiously, this image is not uniformly negative. Indeed, this bird played an important role in the founding of Rome by indicating the location of the city. It follows, therefore, that this bird could also be seen as a good omen, which is why its appearance in (potentially) auspicious practices could be viewed as potentially favourable (see on this subject the developments of Normand 2015, p. 209-376).

Small diurnal raptors (accipiter) were considered as bandits and villains. Similarly, kites were badly perceived (with undoubtedly even more defects), as greedy, gluttonous and meat thieves, of sacrificial meat in particular.

Finally, strigiformes (nocturnal raptors) were known under the zoonyms *noctua*, *bubo* and *strix* (Normand 2015, p. 511). However, these terms do not seem to correspond to defined species but could designate identical birds (different owls) according to the author and their descriptive contexts. On the other hand, they are clearly opposed in terms of cultural image. Thus, the *noctua* enjoyed a good reputation. Its song was not seen as frightening, even if it is not pleasant, and it did not deliver bad omens. The *bubo* and the *strix*, which designate frightening and fatal nocturnal raptors *par excellence*, were not so fondly looked up. Their cries are hoarse and they were thought to announce an unhappiness to come. The latter played an important role in

magical practices and their feathers, viscera, organs were ingredients widely used by witches and sorceresses (Normand 2015, p. 465-469). This Roman categorization of nocturnal raptors, partly based on their voice, reveals a difficulty in identification as the same birds can produce very different sounds according to their behaviour: hunting, escape or nuptial parade.

There is no doubt that the Roman perception of birds of prey found on our archaeological sites was variable and differed according to species. The strigiformes and the kestrel of the Mesnil-Saint-Nicaise and Ménestreau wells may have nothing to do with each other or with the northern goshawk of Vieil-Évreux, and the tawny owls and little owls could have belonged to two very different categories. Are they *noctua* or *bubo*? Therefore, if these animals were discarded voluntarily their individual meaning may be radically different.

Aside from wells, raptor bones can sometimes be found in habitat or sanctuary contexts; however, as only 93 bones from a total of 830,000 determined animal remains (from 914 sites, Lepetz, Barreau 2015) have been determined they remain rare (fig. 8). Vultures have only been found on three sites (5 bones), and the eagle family includes only the white-tailed eagle. It was present on five sites (10 bones). Among the small diurnal raptors, the most frequent was the common buzzard (8 bones, eight sites), with other species delivering only a few bone pieces. It should be noted that the northern goshawk has only been identified on one site. The nocturnal raptors are a little better represented: the little owl (25 bones from two Iron Age and eight Roman period sites), the western barn owl (14 bones, five sites) and the Eurasian eagle owl (11 bones, two sites). The tawny owl and the long-eared owl only delivered one bone each. These small frequencies do not enable further analysis or to examine context trends. For example, the white-tailed eagle has been found on two urban sites (Étables and Metz), a rural site (Zouafques) and the sanctuary of Eu “Bois-l’Abbé” (including a bone in a *favissa*), but this is the only case where a raptor has been discovered in a ritual context (although it has not been determined if the remains were related to ritual practices). For the other taxa, there are no emerging trends.

The vultures are of particular note since they are very weakly represented in the north of France but are less rare in Belgium, the Netherlands (six sites from the Roman period, Groot *et al.* 2010) and in the Northern Alps (seven sites, Deschler-Erb 2009). At the site of Arlon (Belgium) and on the *Aventicum*/Avenches site, two complete cinereous vulture skeletons were found (one per site). The authors relate these discoveries with ritual practices due to the context of discovery (Avenches) and the presence of cut marks on certain bones (Arlon).

Birds of prey, therefore, do not appear to be clearly linked to sanctuaries or places of Roman worship. Except for the rare cases of the vultures and the eagle of Eu “Bois-l’Abbé,” their bones provide little information. Their discovery in the wells examined here is therefore all the more remarkable because they are clearly a rarity on other Roman sites.

The skeletons of goshawks, kestrels and tawny owls appear in contrast to the few isolated bones found in settlement contexts. But what does their presence in the wells signify? An accidental fall is unlikely, since there is no reason for any of these birds to become trapped in a well. We must therefore consider that their deposit was by direct human action: they may

have been tamed animals that died in captivity, they could have been used as aids to falconers, or they may have been killed as part of a recreational hunt or to eliminate animals that would have attacked domestic birds. This is certainly possible for goshawks but not for those that fed only on microfauna, as they do not pose a threat to poultry. On the other hand, the destruction of strigiformes is attested in the Roman world (Normand 2015, p. 544). The action of killing these birds by crucifying them, for example, had the prophylactic value of warding off plagues that could ruin the harvest (bad weather, diseases) and it also played a prominent role in suppressing the herald of bad news or disasters. Is this what the remains at Ménestreau, Vieil-Évreux and Mesnil-Saint-Nicaise are suggesting? Did night owls become victims of their bad reputation? If this is the case, then the nature of the archaeological structure into which their cadavers were thrown is highly significant—the well enabled these ominous birds to be both disposed of and hidden from sight. A desire to corrupt the well may also have been a motive.

As is often the case in our studies, the archaeological data concerns the Gallo-roman world while the textual sources concern the Mediterranean world. Assessing the cultural significances of the bird species listed on these sites is therefore a balancing act. The beliefs in Gaul were certainly under the influence of the “imperial masters,” but that is not to exclude a possible system of beliefs related to birds and other wild species, specific to the inhabitants of Roman Gaul.

## WHOLE DOMESTIC ANIMALS

Interpretation surrounding the presence of domestic animals remains ambivalent. They are omnipresent on both settlement sites (as the main objects of animal husbandry) and religious sites (they intervened during ritual acts as actors of community or family, public or domestic sacrifices). Therefore, it is not surprising that they were discovered in sacred enclosures, especially during the abandonment phases of monuments, when these liberated spaces could be occupied by domestic animals benefitting from the revival of vegetation. Among the domestic remains studied, all species appear as complete skeletons: chickens and chicks in the Vieil-Évreux; dogs and puppies both here and in Ménestreau, and pigs and cattle on all three sites.

Several cats, adults and juveniles, were also discovered in the wells of Vieil-Évreux, Mesnil-Saint-Nicaise and Ménestreau. Appearing in northern Gaul at the end of the Iron Age, the feline became common in late antiquity where they are found on 15% of rural sites and 25% of urban sites (Lepetz, Morand 2017, p. 29). Complete cat skeletons are also often found in the wells of several agricultural settlements: at Plailly (Oise) (Lepetz 1996), Val-de-Reuil (Eure) and Noyelles-lès-Seclin (Nord). Like puppies, kittens were subjected to population regulation to avoid the multiplication of stray animals or to reduce litters that had become too numerous. But what about their symbolic dimension? Several authors have come to the conclusion that some dog and cat deposits are ritual (Morris 2011, p. 162) but there is little evidence to support this. In the papyruses of Greek black magic dating from the 3rd c. AD, sacrifices of cats are described (Luce 2015, p. 75-76) but there is nothing to indicate that these mystical practices spread to Roman Gaul.

One of the peculiarities of cat remains, in the wells studied here, is that they are systematically found at the bottom or in the very first levels of abandonment. This phenomenon is also the same for piglets: seven less than 6 months at Vieil-Évreux, three in the two wells of Mesnil-Saint-Nicaise, four new born piglets in Ménestreau, and skeletal piglet elements at Moyencourt. At Ménestreau and Mesnil-Saint-Nicaise these young animals were also accompanied by adults. At the bottom of the Ménestreau well, three complete ox skeletons were found. At Vieil-Évreux and Mesnil-Saint-Nicaise, other cattle skeletons were found in higher levels. At Ménestreau, some of them show signs of disarticulation, suggesting that the animals had been dismembered to facilitate their handling and introduction into the shaft. Traces of carnivorous teeth seem to attest that the cattle were not immediately removed but remained on the surface for some time, at least until canids had intervened on the carcasses. This is also the case for the incomplete adult dog whose bones also present remains of teeth. Mesnil’s cattle show fine cut marks on the tibia and nasal area, suggesting removal of the skin. Therefore, without knowing the origin of the death of these animals (natural death, slaughter) it is clear that there were human interventions prior to deposition which affected the integrity of the corpses. At Mesnil-Saint-Nicaise, several pig long bones (not from complete skeletons) show traces of cutting but without the anatomical segments having been fractured, which differentiates them from the usual rejections of food preparation.

Among the list of domestic species, the complete horse from well 1084 at Mesnil-Saint-Nicaise and especially the dogs of Vieil-Évreux (14 individuals, including two newborns and six fetuses) and Ménestreau (17 complete individuals including newborns) remain to be mentioned. Initially, the presence of such a large quantity of canids appears surprising; however, it is actually quite frequent in this type of structure, particularly in the fill of urban wells. In Arras (Pas-de-Calais), well C82 yielded 21 dogs (including 5 puppies; Lepetz 2003). In Augsuta Raurica (Switzerland) a well in insula 8 provided 60 (Schmid *et al.* 2011); and in Beaumont-sur-Oise (Val-d’Oise) (Lepetz 2003), the excavation of well 1421 evidenced three adult dogs and 28 puppies, either newborn or a few weeks old, several of which had been consumed. The fill of shrine wells are not significantly different from the fillings of “normal” wells on dwelling sites; many domestic species are still found (dogs, pigs, much less often cattle, sometimes horses). But it is probably also necessary to consider certain urban wells whose fillings not only represent abandonment but whose “end of life” could also have been ritualized.

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At the end of this analysis, it appears that answering the question posed in the title of whether sanctuary wells in Roman Gaul were intentionally contaminated with animal carcasses is not an easy task. All the evidence suggests that the phases of well operation and their filling alternate between natural archaeological levels (microfauna) and intentional deposits (macrofauna). The presence of complete, intermediate-sized animals (especially birds), can probably be largely explained as being intentional human deposits. And although the nature of

these gestures remains elusive, certain characteristics of these wildlife assemblages are unusual and should be considered further. Considered separately, they seem harmless, but considered together they offer food for thought.

The sheer number and taxonomic variety of animals is not observed in habitat assemblages and the inclusion of rare species is exceptionally uncommon. Secondly, at the beginning of the wells' abandonment, certain species (cats and pigs, and we already understand the role of the latter in sacrifices) are thrown in first. Oxen and dogs can also be involved in this initial phase. And, in various forms, corvids (often jackdaws) and raptors also can be present in the fill. Their rarity on settlement sites and the symbolic charge they carried during the Roman period suggest that their presence in well fills is not insignificant and is perhaps loaded with meaning. Similarly, the discovery of unusual elements at the bottom of the wells reinforces this impression that gestures are premeditated: the wild boar skull and a complete

hind leg of a deer in Ménestreau do not seem to be food rejects. Finally, the question must be asked as to why these wells have not continued to be used and why they were not simply cleaned out, since this requires much less investment than creating another well? On the contrary, not only were they abandoned, but they were chosen as a dumping ground for the disposal of corpses, probably carrion, making the structure unfit and preventing any subsequent use. In fact, the image that emerges from these fills, by the existence of these forms of mass graves, including the rejection of ominous birds, is of an active human will to contaminate the well and to make the water inaccessible and impure. This action was final and destructive. It was a condemnation to oblivion with pollution of the well suggesting a deconsecration, or a willingness to render the pit unusable for other religious practices in the future. It was a question of participating in the closure, through a series of gestures, of the end of a story: the story of the sanctuary and the sacred character of the place.

## BIBLIOGRAPHY

- Argant T., Argant A., Jeannet M. 2000** : *Rapport d'étude de la faune du puits du sanctuaire gallo-romain de Ménestreau (Nièvre) - Fouilles Michel Bonneau (site 58 162 002 AH)*. Rapport d'étude non publié.
- Argant A., Bonneau M., Jeannet M., Argant T., Wiethold J., Prost M., Argant J. 2008** : De la diversité des contextes : les os animaux du sanctuaire de Ménestreau (Nièvre) et leur environnement, *in* Lepetz S., Van Andringa W. (dir.) 2008, p. 77-87.
- Aubin G., Monteil M., Eloy-Epailly L., Le Gaillard L. avec la collab. de Brodeur J., Brouquier-Reddé V., Chevet P., Dubois S., Gruel K., Leclerc G., Le Maho J., Lukas D., Mantel É., Paez-Rezende L., Provost A., Simon L., Thébaud S. 2014** : Sanctuaires et pratiques religieuses du III<sup>e</sup> au V<sup>e</sup> s. apr. J.-C. dans l'ouest de la province de Lyonnaise et de ses marges, *in* Van Andringa W. (dir.) 2014, p. 219-248.
- Barral P., Billoin D., Blin S., Bossuet G., Cramatte C., Fruchart C., Laplaige C., Mamie A., Monnier J., Mouglin P., Nouvel P., Piningre J.-F., Thivet M. 2015** : Nouvelles données sur l'agglomération antique d'*Epomanduodurum* (Mandeure et Mathay, Doubs), *Gallia*, 72-2, p. 11-142.
- Ben Abed A., Scheid J. 2003** : Sanctuaire des eaux, sanctuaire de sources, une catégorie ambiguë : l'exemple de Jebel Oust (Tunisie), *in* Cazanove, Scheid (dir.) 2003, p. 7-14.
- Bertaudière S. 2016** : « Le Vieil-Évreux – Le Grand Sanctuaire : la basilique », *AdlFI. Archéologie de la France - Informations, Haute-Normandie*, 2013, ministère de la Culture [URL : <https://journals.openedition.org/adlfi/16599>, consulté le 11/09/2018].
- Bertaudière S., Loiseau C., Zeller S., Guyard L. to be published** : Des offrandes aux gestes et croyances : pratiques, espaces du culte et persistance des rites après la fermeture du sanctuaire gallo-romain du Vieil-Évreux (Eure, France), *Instrumentum*.
- Blin S., Cramatte C. 2014** : Du sanctuaire civique à l'église paléochrétienne de Mandeure (cité des Séquanes) Fermeture, sécularisation et christianisation, *in* Van Andringa W. (dir.) 2014, p. 51-63.
- Blin O., Lepetz S. 2008** : Sacrifice et boucherie dans le sanctuaire de Jouars-Pontchartrain, *in* Lepetz S., Van Andringa W. (dir.) 2008, p. 227-236.
- Boev Z. 1993** : Archaeo-ornithology and the synanthropisation of birds: a case study for Bulgaria, *Archaeofauna*, 2, p. 145-153.
- Boulen M., Cocu J.-S., Coubray S., Derreumaux M., Lecomte-Schmitt B., Lepetz S., Rousseau A., Yvinec J.-H. to be published** : L'environnement végétal d'un lieu de culte d'époque romaine à Nesle-Mesnil-Saint-Nicaise (Somme - France), *in* Fechner K., Fercocq du Leslay G., Gillet E., Wiethold J. (dir.), *Apports des études environnementales à la connaissance des sanctuaires celtes et romains du nord-ouest européen, Actes du colloque Sacrée sciences !, 6-8 juin 2013*, Amiens, Société archéologique de Picardie (coll. *Revue archéologique de Picardie*, n° spécial, 32).
- Cazanove O. de, Scheid J. (dir.) 2003** : *Sanctuaires et source. Les sources documentaires et leurs limites dans la description des lieux de culte*, Naples, Publications du Centre Jean-Bérard (coll. du Centre Jean-Bérard, 22), 186 p.
- Cocu J.-S., Dubois S., Rousseau A., Van Andringa W. 2013** : Un nouveau dieu provincial chez les Viromanduiens : Apollon Vatumarus, *Gallia*, 70-2, p. 315-321.
- Cocu J.-S., Rousseau A. 2014** : Le sanctuaire de Mesnil-Saint-Nicaise : mutations d'un lieu de culte chez les Viromanduiens du I<sup>er</sup> au IV<sup>e</sup> s. apr. J.-C., *in* Van Andringa W. (dir.) 2014, p. 109-117.
- Cunliffe B. 1992** : Pits, preconceptions and propitiation in the British Iron Age, *Oxford Journal of Archaeology*, 11-1, p. 69-83.
- Deschler-Erb S. 2009** : Ein besonderes Vogelskelett in einem frühkaiserzeitlichen Heiligtum von Aventicum. Hol's der Geier, *in* Dräger O. (dir.), *Kelten am Rhein, Akten des dreizehnten Keltologiekongresses, 23. bis 27. Juli 2007 in Bonn, Erster Teil Archäologie : Ethnizität und Romanisierung*, Mainz, Philipp von Zabern (coll. Beihefte der Bonner Jahrbücher, 58), p. 279-286.
- Fercocq du Leslay G., Lepetz S. 2008** : Manger dans les sanctuaires : salaisons et viande fraîche à Ribemont-sur-Ancre, *in* Lepetz S., Van Andringa W. (dir.) 2008, p. 201-205.
- Fleming R. 2016** : The ritual recycling of Roman building material in late fourth- and early fifth- century Britain, *European Journal of Post-Classical Archaeologies*, 6, p. 7-31.
- Groot M. 2008** : *Animals in Ritual and Economy in a Roman frontier Community: Excavations in Tiel-Passewaaij*, Amsterdam, Amsterdam University Press (coll. Amsterdam Archaeological Studies, 12), 271 p.



- Groot M., Ervynck A., Pigière F. 2010** : Vagrant vultures: Archaeological evidence for the cinereous vulture (*Aegypius monachus*) in the Low Countries, in Prummel W., Zeiler J. T., Brinkhuizen D. C. (dir.), *Birds in Archaeology. Proceedings of the 6th Meeting of the ICAZ Bird Working Group in Groningen (23.8-27.8.2008)*, Groningen, Barkhuis, Groningen University Library, p. 241-251.
- Guyard L., Fontaine C., Bertaudière S. 2012** : Relecture du dépôt de bronze de l'époque romaine du Vieil-Évreux (Eure) : des dépôts rituels liés à la fermeture du temple, *Gallia*, 69-2, p. 151-194.
- Guyard L., Bertaudière S., Cormier S., Fontaine C. 2014** : Démantèlement d'un grand sanctuaire civique de la cité des Aulerques Éburovices au III<sup>e</sup> s. apr. J.-C. : le site du Vieil-Évreux entre 250 et 350 apr. J.-C., in Van Andringa W. (dir.) 2014, p. 39-50.
- Huguet L. 2013** : Les dépôts animaux des abords du théâtre romain de Mandeur-Mathay (Doubs), in Auxiette G., Méniel P. (dir.), *Les dépôts d'ossements animaux en France, de la fouille à l'interprétation, Actes de la table-ronde de Bibracte, 15-17 octobre 2012*, Montagnac, Monique Mergoïl, p. 87-101.
- Lepetz S. 1996** : *L'animal dans la société gallo-romaine de la France du Nord*, Amiens, Revue archéologique de Picardie (coll. Suppl. à la Revue archéologique de Picardie, 12), 174 p.
- Lepetz S. 2003** : Gérer les rejets de boucherie et les cadavres animaux dans les villes de Gaule romaine, in Cordier P., Dieudonné-Glad N. (dir.), *La Ville et ses déchets dans le monde romain : rebuts et recyclages, Actes du colloque de Poitiers, 19-21 septembre 2002*, Montagnac, Monique Mergoïl (coll. Archéologie et Histoire Romaine, 10), p. 209-217.
- Lepetz S. 2008** : Boucherie, sacrifice et marché à la viande en Gaule romaine septentrionale : l'apport de l'archéozoologie, in Van Andringa W. (dir.), *Sacrifices, marchés à la viande et pratiques alimentaires dans les cités du monde romain*, Tours, Food and History, 5-1, p. 73-105.
- Lepetz S., Barreau J.-B. 2015** : Banque de données MyOs - World Wide Web electronic publication [URL : <http://base-myos.fr>, consulté le 01/02/2018].
- Lepetz S., Magnan D. 2008** : Sanctuaires et activités de boucherie sur le site de La Baue à Meaux, in Lepetz S., Van Andringa W. (dir.) 2008, p. 215-224.
- Lepetz S., Méniel P. 2008** : Des sacrifices sans consommation : les dépôts d'animaux non consommés en Gaule romaine, in Lepetz S., Van Andringa W. (dir.) 2008, p. 155-164.
- Lepetz S., Van Andringa W. (dir.) 2008** : *Archéologie du sacrifice animal en Gaule romaine. Rituels et pratiques alimentaires*, Montagnac, Monique Mergoïl (coll. Archéologie des Plantes et des Animaux, 2), 306 p.
- Lepetz S., Morand N. 2017** : Archéozoologie des territoires du nord-est de la France, du second âge du Fer à l'Antiquité tardive : banque de données et éléments de synthèse, in Lepetz S., Zech-Matterne V. (dir.), *Productions agro-pastorales, pratiques culturelles et élevage dans le nord de la Gaule du deuxième siècle avant J.-C. à la fin de la période romaine*, Montagnac, Monique Mergoïl (coll. Archéologie des Plantes et des Animaux, 5), p. 11-42.
- Lepetz S. to be published** : Archéozoologie des lieux de culte antiques du nord de la France : sacrifices, offrandes et banquets, in Fechner K., Fercocq du Leslay G., Gillet E., Wiethold J. (dir.), *Sacrée sciences - Apports des études environnementales à la connaissance des sanctuaires celtes et romains du nord-ouest européen. Publication des actes du colloque tenu les 6-8 juin 2013*, Amiens, Société archéologique de Picardie (coll. Revue Archéologique de Picardie, n° spécial, 32), p. 73-87.
- Luce J.-M. 2015** : Les chats dans l'Antiquité grecque, in Bellier C., Cattelain L., Cattelain P. (dir.), *Chiens et Chats dans la Préhistoire et l'Antiquité, guides archéologiques du malgré-tout*, Treignes, éd. du Cedarc, p. 69-77.
- Masson B., Desfossés Y. 1997** : « Fresnes-lès-Montauban - Le Château d'eau, Le Motel », *AdIFI. Archéologie de la France - Informations*, Nord-Pas-de-Calais, 1989, ministère de la Culture et de la Communication [URL : <http://adifi.revues.org/10127>, consulté le 09/03/2018].
- Méniel P. 1987** : *Chasse et élevage chez les Gaulois*, Paris, Errance (coll. Les Hespérides), 154 p.
- Morris J. 2011** : *Investigating Animal Burials. Ritual, mundane and beyond*, Oxford, Archaeopress (coll. BAR British Series, 535), 248 p.
- Mynott J. 2018** : *Birds in the Ancient World: Winged Words*, Oxford, Oxford University Press, 480 p.
- Normand H. 2015** : *Les rapaces dans les mondes grec et romain. Catégorisation, représentations culturelles et pratiques*, Bordeaux, Ausonius (coll. Scripta Antiqua, 80), 734 p.
- Olioso G. 2012** : *Corbeaux et Corneilles. Observation, Description, Répartition, Mœurs, Habitat*, Paris, Delachaux et Niestlé (coll. Les guides du naturaliste), 192 p.
- Petit J.-P. 1987** : Puits et fosses rituels en Gaule d'après l'exemple de Bliesbruck (Moselle) : un aspect d'un culte chthonien celtique, *Les Cahiers Lorrains*, 1, p. 13-35.
- Petit J.-P. 1989** : Bliesbruck et les grands ensembles de puits et de fosses cultuels de la Gaule romaine. Aspect d'un rituel où l'animal occupe une place prédominante, in Méniel P. (dir.), *Animal et pratiques religieuses : les manifestations matérielles*, Paris, Anthropozoologica (coll. Suppl. à Anthropozoologica, 3), p. 99-110.
- Prilaux G. (dir.) 2012** : *Le site laténo-romain de Moyencourt au lieu-dit « Le Haut du Bois de Pique » : un lieu de culte atypique chez les Viromanduiens ?*, RFO de diagnostic, Canal Seine-Nord Europe, Moyencourt, Inrap, 322 p.
- Roy P. 2013** : Mithra et l'Apollon celtique en Gaule, *Studi e materiali di storia delle religioni*, 79-2, p. 360-378.
- Schmid D., Peter M., Deschler-Erb S. 2011** : Crise, culte et immondices : le remplissage d'un puits au III<sup>e</sup> siècle à Augusta Raurica, in Schatzmann R., Martin-Kilcher S. E. M. (dir.), *L'Empire romain en mutation. Répercussions sur les villes romaines dans la deuxième moitié du III<sup>e</sup> siècle, Colloque International, Bern/Augst (Suisse), 3-5 décembre 2009* / Das römische Reich im Umbruch ; Auswirkungen auf die Städte in der zweiten Hälfte des 3. Jahrhunderts ; internationale Kolloquium, Bern/Augst (Schweiz) 3-5 Dezember 2009, Montagnac, Monique Mergoïl (coll. Archéologie et Histoire Romaine, 20), p. 125-131.
- Serjeantson D., Morris J. 2011** : Ravens and Crows in Iron Age and Roman Britain, *Oxford Journal of Archaeology*, 30, p. 85-107.
- Tardy C., Fémenias J.-M., Pellecuer C., Pomarède H. 2014** : La fouille de puits. Contraintes, protocoles et perspectives de recherche, *Archéopages*, 40, p. 156-161.
- Van Andringa W. (dir.) 2014** : Dossier : La fin des dieux. Les lieux de culte du polythéisme dans la pratique religieuse du III<sup>e</sup> au V<sup>e</sup> s. apr. J.-C. (Gaules et provinces occidentales), *Gallia*, 71-1, 326 p.
- Van Andringa W. 2014** : Les dieux changent en Occident (III<sup>e</sup>-IV<sup>e</sup> s. apr. J.-C.) : archéologie et mutations religieuses de l'Antiquité tardive, in Van Andringa W. (dir.) 2014, p. 3-10.
- Van Haasteren M., Groot M. 2013** : The biography of wells: A functional and ritual life history, *Journal of Archaeology in the Low Countries*, 4-2, p. 25-51.
- Vendries C. 2009** : L'auceps, les gluaux et l'appeau. A propos de la ruse et de l'habileté du chasseur d'oiseaux, in Trinquier J., Vendries C. (dir.), *Chasses antiques. Pratiques et représentations dans le monde gréco-romain (III<sup>e</sup> siècle av. - IV<sup>e</sup> siècle apr. J.-C.)*, Rennes, Presses universitaires de Rennes, p. 119-140.
- Woodward P., Woodward A. 2004** : Dedicating the town: Urban foundation deposits in Roman Britain, *World Archaeology*, 36-1, p. 68-86.
- Yalden D. W., Albarella U. 2009** : *The History of British Birds*, Oxford, Oxford University Press (coll. Oxford Ornithology Series), 270 p.